

# ULTRAVIOLET DETECTOR AND MANUFACTURE METHOD THEREOF

## ABSTRACT OF THE DISCLOSURE

The present invention relates to an ultraviolet detector and manufacture method thereof, in which a buffer layer is formed on a baseplate and a P-type GaN layer is formed on the baseplate by using epitaxial method. By availing ion-distribution-and-vegetation technology, a first N-type GaN layer is vegetated and invested in the P-type GaN layer by distributing and vegetating  $\text{Si}^+$  ions in that layer, and a second N-type GaN layer having a thicker ion concentration is invested in the N-type GaN layer. Finally, an annular and a circular metallic layer are formed between the P-type GaN layer and the first N-type GaN layer as well as inside the second N-type GaN layer, respectively, to serve for respective ohmic contact layers. The present invention is characterized in that an incident light can project upon a depletion layer of the GaN planar structure to have the detection efficiency significantly improved.